



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Attorney Docket No.: PALM-3628 (CIP)

JUL 10 2002

Gettemy, et al.

DIRECTOR OFFICE

TECHNOLOGY CENTER 2600

Title: CONTROLLABLE PIXEL BORDER FOR A NEGATIVE MODE PASSIVE MATRIX DISPLAY DEVICE

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Attention: Group Director, Group
Sir:

(MPEP §1002.02(c))

Petition to Make Special for New Application
(Under MPEP §708.02(viii))

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Technology Center 2600

Applicant hereby petitions to make this new application, which has not received any examination by the Examiner, special.

- ☒ All the claims in this case are directed to a single invention.
☒ If the Office determines that all the claims presented are not obviously directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status.
☐ If claims _____ are found not to be examinable in this case with claim(s) _____, Applicant hereby elects claim(s) _____ for the prosecution of this case.

A search has been made by:

- ☐ the inventor ☐ attorney
☐ professional searcher ☒ foreign patent office

in the following:

- ☒ field of search: int'l classes G09G, subclasses _____
☐ publications:
☒ foreign patents:
☒ search by corresponding foreign patent office or at the former International Patent Institute at The Hague, Netherlands.

- ☒ There is submitted herewith a copy of the references deemed most closely related to the subject matter encompassed by the claims.
☒ Form PTO-1449 is attached.
☒ There is submitted herewith a detailed discussion of the references which discussion particularly points out how the claimed subject matter is distinguishable over the references.

PAYMENT OF FEES

1. The full fee due in connection with this communication is provided as follows:
- ☒ The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No.: 23-0085.
A duplicate copy of this authorization is enclosed.
- ☒ A check in the amount of \$130.00
- ☐ Charge any fees required or credit any overpayments associated with this filing to Deposit Account No.: 23-0085.

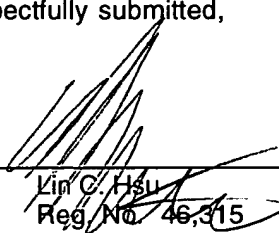
Please direct all correspondence concerning the above-identified application to the following address:

WAGNER, MURABITO & HAO LLP
Two North Market Street, Third Floor
San Jose, California 95113
(408) 938-9060

Respectfully submitted,

Date: 11 June 2002

By: _____


Lin C. Hsu
Reg. No. 46,315



#2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
Gettemy, S. et al.)
)
Serial No.: 09/818,081)
)
Filed: March 26, 2001)
)
For: CONTROLLABLE PIXEL BORDER)
FOR A NEGATIVE MODE)
PASSIVE MATRIX DISPLAY)
DEVICE)
_____)

Examiner:

Art Unit:

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JUN 26 2002

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Assistant Commissioner of Patents
and Trademarks
Washington, D.C. 20231

PETITION TO MAKE SPECIAL UNDER 37 C.F.R. 1.102(d)

Dear Sir:

Applicants hereby petition to make the above-identified patent Application special. The grounds and conditions for granting this application special status are found in M.P.E.P. 708.02 VIII entitled "Special Examining Procedure for Certain New Applications-Accelerated Examination." The petition fee required pursuant to 37 C.F.R. \$1.17 is enclosed.

STATEMENTS

As provided for in M.P.E.P. 708.02 VIII, Applicants agree to the special examining procedure detailed therein. In support of this petition, Applicants state each of the following:

PALM-3628 (CIP) / ACM/LCH
Examiner:

1

Serial No.: 09/818,081
Group Art Unit:

06/21/2002 RHEBRAHT 00000015 09818081

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1. Claims 1-24 of the present invention are presented for consideration under the present petition to make special.

2. Claims 1-24 of the present invention are directed to a single invention.

3. A pre-examination search made by the European Patent Office, a foreign patent office, was made.

4. A list of references found in the search by the European Patent Office deemed most closely related to the subject matter encompassed by the claims of the present invention.

5. Copies of the references found in the search by the European Patent Office deemed most closely related to the subject matter encompassed by Claims 1-24 of the present invention are submitted herewith the special petition to make special.

6. A detailed discussion of the references found in the search by the European Patent Office that points out, with the particularity required by sections 37 C.F.R. 1.111(b) and (c), how the claimed subject matter is patentable over the references.

SCOPE AND RESULTS OF A PRE-EXAMINATION SEARCH

The subject matter of the claims of the above-identified Application relates to display field technology, and more specifically, to a display matrix including a pixel border located around edge locations of the matrix for improved viewability. The pixels of the border region are controllable between an on state and an off state by an adjustable threshold voltage level.

Applicants have not received an Office Action concerning the examination of the present Application.

To determine the patentability of the Claims of the Application, a search was conducted by the European Patent Office. A Standard Search Report provided by the European Patent Office is attached herewith as Attachment A.

LIST OF REFERENCES UNCOVERED BY THE PRE-EXAMINATION SEARCH

In support of this petition to make special, copies of the references provided by the Standard Search Report by the European Patent Office, and deemed most closely related to the subject matter encompassed by Claims 1-24 of the present invention, are also attached herewith as Attachments B, C, and D.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this

information may not be enabling for the teachings purportedly offered.

The pre-examination search at the European Patent Office uncovered the following documents:

European Patents

EP 0 394 814 A1	Grupp, J.	Attachment A
EP 0 283 235 A2	Taniguchi, K.	Attachment B
GB 2 214 342 A	Kawamura, Y.	Attachment C

DETAILED DISCUSSION OF THE REFERENCES UNCOVERED
BY THE PRE-EXAMINATION SEARCH

Applicants have reviewed the cited references found by the European Patent Office that are deemed most closely related to Claims 1-24 of the present invention. Applicants further respectfully contend that Claims 1-24, as claimed, are patently distinguishable from the aforementioned cited references.

The presently claimed embodiments of the invention disclose an apparatus that is a display unit having a pixel border surrounding a passive matrix. More particularly, the pixel border of the presently claimed invention is comprised of a plurality of pixels which are uniformly controlled by a common threshold signal that is separate and independent from electronic signals driven from the rows and columns drivers of the passive matrix for creating images, according to one embodiment.

Specifically, independent Claims 1, 13, and 19 each contain or implement a display unit with a pixel border, as recited:

A display unit comprising:
a passive matrix . . . operable to generate
an image in response to electronic signals
driven from row and column drivers coupled
to said passive matrix, said image
representative of information stored in a
frame buffer memory; and
a pixel border having a predetermined width,
said pixel border surrounding said passive
matrix and comprising a plurality of pixels
which are uniformly controlled between an on
and an off state by a common threshold
signal
. . .

As such, the claimed pixel border region is comprised of a plurality of pixels in that the pixel border region can be several pixels wide (e.g., $1 < x < 5$) (see page 5, lines 18-19 of the instant specification).

Further, control of the pixel border is independent from the control of the display region or passive matrix used for generating an image. Specifically, the pixel border region is not controlled by the frame buffer memory which generates the images shown on the display region of the display unit, but separately and uniformly controlled between an on state and an off state by a single control signal, the common threshold signal, as stated in independent Claims 1, 13, and 19 of the present invention.

The documents uncovered by the pre-examination search conducted by the European Patent Office are discussed below.

1. EP 0394 814 A1

European Patent No. EP 0 394 814 A1 to Grupp discloses a liquid crystal display cell presenting a negative contrast that is comprised of a multiplexed matrix display structure. More particularly, The Grupp reference includes a display surface comprised of a first display zone, a second display zone, and a neutral zone. The first display zone includes the data to be displayed. A background that is in contrast to the data is also formed in the first display zone. The second display zone forms a frame of an optical state for separating the first display zone and the neutral zone, which has no electrodes.

The Grupp reference provides for contrast between the data and the surrounding neutral zone by selecting the proper optical state within the second display zone. This allows the data that borders on the edges of the first display zone to stand out from the neutral zone. Specifically, commands are sent such that the "pixels of [the] second zone are selected in an optical state identical to the optical state of the background of the first display zone," as is disclosed in the Grupp reference.

In one implementation of the Grupp reference, the second display zone is comprised of pixels that are commanded with the same signal as the first display zone, and in particular, the background of the first display zone. A decoder (see decoder 21 of Figure 4) provides the signals to the background of the first display zone as well as to the second display zone for displaying identical optical state in those two zones.

In a second implementation of the Grupp reference, the second display zone is comprised of two electrodes fully facing each other in the shape of a frame that surrounds the first display zone. The two electrodes are controlled by a second command circuit that is commanded by a common decoder which allows for the second display zone to be "in an optical state identical to the optical state of the background of the first display zone." In this case, the common decoder controls the input signals into the background region of the first display zone and the entire second display zone.

On the other hand, the present invention as claimed in independent Claims 1, 13, and 19 controls a pixel border that is independent from the display region of a passive matrix. Moreover, a separate driving signal controls the display in the pixel border. Specifically, independently and separately from signals that drive the rows and columns of the passive matrix, the pixel border region is "uniformly controlled between an on state and an off state

by a common threshold signal, as claimed in independent Claims 1, 13, and 19 of the present invention.

In particular, independent Claims 1, 13, and 19 of the present invention each contain or implement a display unit with a pixel border, as recited:

A display unit comprising:
a passive matrix . . . operable to generate
an image in response to electronic signals
driven from row and column drivers coupled
to said passive matrix . . . and
a pixel border having a predetermined width,
said pixel border surrounding said passive
matrix and comprising a plurality of pixels
which are uniformly controlled between an on
and an off state by a common threshold
signal
. . .

As such, the Grupp reference does not anticipate nor render obvious a pixel border that is driven independently from the display region of the passive matrix, and more particularly, a pixel border that is driven by a common threshold signal that is separate and independent from the electronic signals driven from row and column drivers.

2. EP 0 283 235 A2

European Patent No. EP 0 283 235 A1 to Taniguchi includes a liquid crystal display device having an effective display region with a plurality of transparent electrodes to make characters visible, and a non-display region other than the effective display region. It is possible to select between a dark and bright state of the non-display region according to the display state in the

effective display region. The effective display region is distinguishable from the non-display region.

In the Taniguchi reference, the non-display region and the display region are driven by the same driving circuit (see page 5, lines 18-29). Specifically, the same driving voltage from the driving circuits YD and XD that control the horizontal and vertical electrodes, respectively, are applied both to the display and non-display regions. Independent control between the display and non-display regions is provided in software in the shift registers to selectively drive the horizontal and vertical electrodes, including those for the non-display region (see page 5, lines 17-23). In addition, Figure 2 illustrates a driver circuit providing the same driving voltage for horizontal electrodes in both the display and non-display regions. Correspondingly, Figure 3 illustrates a driver circuit providing the same driving voltage for vertical electrodes in both the display and non-display regions.

On the other hand, the present invention as claimed in independent Claims 1, 13, and 19 controls the pixel border independently from the display region of the passive matrix, and uses a different driving signal. Specifically, the passive matrix is controlled by electronic signals driven from the rows and column drivers of the passive matrix. Independent and separate from the signals driven from the row and column drivers, the pixel border region is "uniformly controlled between an on state and an off state

by a common threshold signal," as claimed in independent Claims 1, 13, and 19 of the present invention. As such, separate driving circuits are utilized to drive the pixel border region and the display region of the passive matrix.

In particular, independent Claims 1, 13, and 19 of the present invention each contain or implement a display unit with a pixel border, as recited:

A display unit comprising:
a passive matrix . . . operable to generate
an image in response to electronic signals
driven from row and column drivers coupled
to said passive matrix . . . and
a pixel border having a predetermined width,
said pixel border surrounding said passive
matrix and comprising a plurality of pixels
which are uniformly controlled between an on
and an off state by a common threshold
signal
. . .

As such, the Taniguchi reference does not anticipate nor render obvious a pixel border that is driven independently from the display region of the passive matrix, and more particularly, a pixel border that is driven by a common threshold signal that is separate and independent from the electronic signals driven from row and column drivers.

3. United Kingdom Patent No. GB 2 214 342 A to Kawamura includes an effective display range with separate electrode patterns around the display range for improving picture quality. The electrode patterns are driven with suitable voltages so that the voltage applied in the display range corresponds to the voltage applied in the

electrode patterns. As such, the color of the background around an effective display range is the same as that of the background in the effective display range. This is accomplished by applying the same voltage to the electrode patterns as those applied from the drive circuits for the scanning and signal electrodes in the effective display region.

On the other hand, the present invention, in independent Claims 1, 13, and 19 show that the "pixel border region" is driven and uniformly controlled by a common threshold signal that is separate from and distinguishable from the signals driving the image. The image is "generated by driving a passive matrix of independently controllable pixels comprising n rows and m columns of discrete pixels," as stated in independent Claims 1, 13, and 19. The rows and columns of discrete pixels comprises the display region of the display unit.

Furthermore, in Kawamura, the background around the effective display range is comprised of electrode patterns of singular width, as is shown by number 15 of Figure 6. The implementation of the electrode pattern as illustrated in Figure 6 is consistent with the specification in Kawamura disclosing electrode patterns surrounding the display range of singular width. Specifically, the specification in Kawamura discusses the electrode patterns that form a frame of varying width, and in one embodiment

is equivalent to the scanning electrodes and signal electrodes in the display region.

However, the pixel border region in the present invention is comprised of a plurality of pixels, as is claimed in Claims 1, 13, and 19, and not of a pattern of electrodes of singular width to form a frame as is disclosed in Kawamura. More specifically, the pixel border region is comprised of a plurality of pixels that can be several pixels wide (e.g., $1 < x < 5$) (see page 5, lines 18-19).

In particular, each of the independent Claims 1, 13, and 19 of the present invention contain the following:

A display unit comprising:

. . .
a pixel border having a predetermined width,
said pixel border surrounding said passive
matrix and comprising a plurality of pixels
which are uniformly controlled between an on
and an off state by a common threshold
signal
. . . (emphasis added).

As such, the Kuwamura reference does not anticipate nor render obvious a pixel border that is comprised of a "plurality of pixels," and which are "uniformly controlled between an on and an off state by a common threshold signal."

/ CLAIMS DIRECTED TO A SINGLE INVENTION

Claims 1-24 are presented in the present Application.
Applicants respectfully submit that the Claims are directed

to a single invention. However, if the Examiner deems that the Claims are directed to more than one patentably distinct invention, Applicants will make an election without traverse as a prerequisite to the grant of special status.

ADDITIONAL COMMENTS

Contrary to the teachings of the above listed patents either taken alone or in combination, the present invention as claimed is directed to a novel, unobvious display unit having a pixel border that is uniformly controlled between an on and an off state by a common threshold signal that is separate from the electronic signals driven from row and column drivers coupled to the display region in the passive matrix.

Applicants respectfully assert that the present invention as claimed in independent Claims 1, 13, and 19 is patently distinguishable from the above references found in the European Patent Office Standard Search Report.

CONCLUSION

The statements in the present Petition should not be construed as a representation that more material information does not exist.

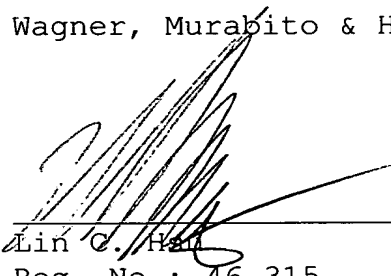
In accordance with the requirements of 37 C.F.R. 1.102 (d), Applicants submit herewith the petition fee of \$130 as required by 37 C.F.R. 1.17.

Applicants respectfully submit that all of the requirements of 37 C.F.R. 1.102 and M.P.E.P. 708.02 VIII have been met in order to place the present Application in special status. It is therefore respectfully requested that this petition be granted.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,
Wagner, Murabito & Hao LLP

Date: 11 June 2002



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